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FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

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AMPUTATION OF THE UTERUS.

Mr. L. M. Magee recently, not for the first time, put a successful case of this operation on record; and some of the remarks upon the subject made by himself and other Irish members should be useful to country practitioners. The operation has never received quite the attention it deserves from English members. There have been men who considered it practically or absolutely hopeless, and there are still some who never attempt it. Yet it is certain that it offers considerable hope of success under fairly favourable conditions, and that not uncommonly it presents the only chance of saving the animal's life. These reasons alone should impel country practitioners in particular to study the operation; especially as, if performed at all, it always has to be done at short notice with no time for reading up its details.

There are several "pitfalls" in connection with the operation. The chief of these are the dangers of excising a hernia of bladder or intestine within the inverted uterus, of including the meatus urinarius in the ligatured portion, and of applying an insecure ligature. The first, which has caused many fatalities, can easily be avoided by incising the uterine mass and manually exploring its interior, while correct anatomical knowledge and wise choice of surgical method respectively should guard against the second and third. These three points show the risk of attempting the operation without having previously thought out its details.

The operation holds possibilities of interesting and important developments of its methods. It is not always necessary, and may even be inadvisable, to excise the entire uterus when only a portion has been hopelessly damaged; andthis affords considerable scope for judgment in some cases.

A more important question is whether the uterine stump should be ligated or sutured. Ligation is almost universally practised; but W. L. Williams, the noted American surgeon and obstetrician, has advanced strong reasons, as regards the larger animals at least, for preferring suturing as "more surgical and safer," and has described the technique for its performance.

Partly because the operation is an old one, and still more from the conditions under which it is found necessary, the tendency has always been to perform it in a somewhat rough-and-ready fashion. Despite that fact, and the further one that it has not uncommonly been performed too late, it has been fairly successful. Probably further developments in its technique may improve its results in the future; but, even as it stands today, it is one of the operations which the country practitioner should keep himself fitted to perform at any moment.

THE THERAPEUTIC EFFECTS OF INGESTING BLOOD OR PREPARATIONS OF BLOOD.

The therapeutic effects of ingesting natural blood have been known for a long time. The reason that this remedy has not been more used is that the majority of herbivorous animals, and especially mankind, have a very marked aversion to fresh blood, whatever its origin. Attempts have therefore been made to transform blood into a solid product which can be durably preserved; and the most advantageous results have been obtained by desiccation at a temperature below 40 °C. Goslar, a veterinarian, has perfected this method by, before desiccation, making an intimate mixture of blood and crushed grains. He thus obtains a solid clotted mass, the toughness of which results from the combination of gluten and fibrin, the whole forming a material of horny consistence. The product is not at all hygroscopic, and can be preserved almost indefinitely. An analogous compound, more especially destined for human therapeutics, is made by the same procedure and known under the name of "secron." On account of the low temperature at which the desiccation is carried out and the mixture with farinaceous material, the blood preserves almost intact all the biological properties which it owes to the presence of the ferments and enzymes secreted by the hæmatopoietic glands.

The principal glands of internal secretion which throw their products into the blood are the Thyroids, Supra renal Capsules, pituitary gland, and sexual glands. These organs may become diseased, may atrophy, or may degenerate, especially where there is superabundance of toxic material carried in the blood. This is observed frequently in cases of infectious disease, chronic intoxication, permanent bad digestion, etc. The hæmatopoietic glands are overworked, and finally no longer suffice for their task. It is comprehensible that in similar conditions, the ingestion of natural blood, or of a preparation in which blood coming from healthy animals has preserved the whole of its biological properties, may assist the distressed organism by supplying it with the ferments and anti-toxins which it is no longer able to elaborate for itself in sufficient quantities.

Goslar has given a *résumé* of the results obtained in human and veterinary medicine by the use of "secron" or a similar product.

The administration of secron to women suckling their infants causes a manifest augmentation of the sudoriparous, renal, and mammary glands,

Secron is also very efficacious in cases of dyspepsia or of intestinal catarrh. Gaseous indigestion of the human stomach recovers in a short time by the absorption of secron.

The activity of the skin augments very manifestly

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under the influence of this treatment. In animals, the shedding of the hair is accelerated, and eczema and pruritis disappear after a short time.

This remedy is entirely indicated (and has proved its efficacy) againt anæmia, chlorosis, suppression of the menses in women, and neurasthenia.

Secron has given marvellous results in the convalescence of horses after strangles or infectious pneumonia.

All this seems, at first sight, an exaggeration. Physiologically, however, the beneficial effects of the ingestion of blood or secron are easily comprehensible. It is only necessary to think of the important part which the hæmatopoietic glands play in the organism, and of the serious consequences which result from insufficiency of one or other of these glands. Organo-therapy or, in its absence, the absorption of integral blood is the only remedy for such insufficiency.

Coccidiosis in the Goat.

As coccidiosis of the goat had never previously been reported in Germany, Karsten published his personal observations upon it in *Deutsche Tierärztliche Wochenschrift* for 1913. In August, 1912, he learned that an epizootic had broken out in a herd of goats at pasture. The affected animals contracted persistent diarrhœa, became progressively emaciated, and finally fell into a state of extreme weakness, which was usually terminated by death.

Post-mortem examination showed that the affection was intestinal coccidiosis. It was then recognised that it would have been possible to make the diagnosis during life, for the diarhœaic fæces containing numerous coccidia.

Upon diagnosis, the animals were at once withdrawn from the contaminated pastures; and from that time the propagation of the disease was definitely arrested, and 50% of the affected animals completely recovered.

Hydrochloric acid poisoning in the Horse.

Levens has published this observation in *Deutsche Tierärztliche Worhenschrift*. He fed two horses of his own with foreign oats and excellent hay, and soon noticed an ulcerous stomatitis and a slight gastro-enteritis. Suspecting the oats, he had them analysed; and the result proved Hydrochloric acid had been used to impart a good colour to the oats; and the excess of acid had not subsequently been washed away. Appropriate treatment was instituted as soon as the origin of the disease became known; and after four days the horses were out of danger.—(*Annales de Médecine Vétérinaire*).

W. R. C.

NATIONAL VETERINARY MEDICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

Veterinary Surgeons Fees and Insurance Companies.

At the last Annual general meeting of the National Veterinary Medical Association the question of veterinary surgeons' fees was discussed, and a resolution was passed recommending that all fees charged by veterinary surgeons should be increased by not less than 25%.

It was further resolved that the scale of fees drawn up after numerous committee meetings, and adopted by the National in March 1914, for the examination etc., of animals for insurance purposes should also be increased by 25%. The schedule of fees was duly circulated in 1914, to the local branches of the National, but owing to lack of united action on the part of some members, and of veterinary surgeons not members of the association or its branches, the insurance companies have continued to get their work done at absurdly low fees.

The proceedings at some of the local societies show that there is now a very widespread feeling that those fees must be raised, but there is great danger of undermining the work of the National by separate action if care is not taken.

As acting secretary of the National, and with the able assistance of Mr. A. S. Adams, of Dursley, representing the veterinary surgeons of Gloucestershire, I have been in conference with the Live Stock Offices Association, he body which co-ordinates the policy of the Insurance Companies, with reference, *inter alia*, to veterinary surgeons' fees. Negotiations are in hand at the present time, but some difficulty is being experienced owing to the view expressed by the L.S.O.A. that the National only represents some of the veterinary societies, and not all. This is true only in so far as concerns a few recently-formed societies or collections of veterinary surgeons who have not yet affiliated to the National.

Under these circumstances, therefore, I would suggest that the various Branches of the National, and other local bodies, should postpone their proceedings pending some definite result of the present negotiations. It might also strengthen our hands if the local societies intimated to the Live Stock Offices Association, 17 Pall Mall East, S.W. 1, their adherence to the National. and their willingness to accept the parent body, the N.V.M.A., as their authorised agents in this matter.

I append the schedule of fees as adopted in 1914, together with the list of fees as affected by the 25% increase.

Scale of Fees as finally adopted by the Council of the above Association at their sitting on the 12th of March, 1914, for examination and report on general health, condition, age, colour markings, and approximate value of animals proposed for insurance:—

HORSES AND VALUABLE PEDIGREE CATTLE.

		Original Fees.	N.V.M.A. Amended Fees
(*a*)	Single animal under the value of £50	5/-	6/3
	Two animals ,, ,, ,,	5/- ea.	6/3 ea.
	After the first two per head	2/6 ,,	3/1½ ,,
(*b*)	Single animal valued at £50, and under £100	10/6	13/-
(*c*)	,, ,, valued at £100, and under £250	15/-	18/9
(*d*)	,, ,, valued at £250, and under £1000	21/-	26/3

If more than two animals are examined, the third and all subsequent ones at half the above charges.

STORE CATTLE, ORDINARY MILKING COWS, ETC.

(*e*)	Single animal	5/-	6/3
	Two or more animals per head	2/6	3/1½
(*f*)	Special reports on illness, accident, &c.	10/6	13/-
(*g*)	Post-mortem exams. and reports	21/- ea.	26/3
(*h*)	Other stock, sheep, pigs, etc., in considerable numbers, by special arrangements.		

The above fees are for services rendered at the veterinary surgeons' establishment, or within the distance of one mile thereof. For allowance beyond one mile the following additional fees are to be charged in lieu of mileage:—

From 1 to 3 miles	1/-	1/3
,, 3 to 5 ,,	2/6	3/1½
,, 5 to 8 ,,	3/6	4/4½

Beyond 8 miles in proportion.

Geo. H. Wooldridge.
Hon. Treas. and Acting Hon. Sec.

R.V. College,
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EASTERN COUNTIES VETERINARY MEDICAL SOCIETY.

[NATIONAL V.M.A.—SOUTHERN BRANCH.]

PARASITIC MANGE IN THE HORSE.

BY PROF. G. H. WOOLDRIDGE R. V. COLL: LONDON.

Mange is a skin disease caused by parasites belonging to the order Acarina and comprised of the families Sarcoptidæ and Demodecidæ. The parasites are all small and are mainly microscopic in size though some may be recognised as small moving points with the unaided eye.

In the horse three genera of Sarcoptidæ may be met with, namely, *Sarcoptes*, *Psoroptes* and the *Chorioptes*, or *Symbiotes*, causing respectively sarcoptic mange, psoroptic mange, or chorioptic or symbiotic mange. *Demodecidæ* are comparatively rarer in the horse, and when present may set up demodectic or follicular mange.

Life History of the Parasites. All the Sarcoptidæ have a similar life history. The fertilized or ovigerous female deposits her eggs, which under favourable circumstances hatch out and liberate the larvæ which possess only three pairs of legs and are asexual. After moulting several times the nympha is liberated possessing four pairs of legs but still asexual. After further moulting the nympha gives rise to the adult sexually mature male, or the pubescent female. The females are always in excess of the males. The male then fertilizes one or more females and dies, while the fertilized female, after moulting, becomes the ovigerous female and deposits her eggs, thus recommencing the life cycle.

In the case of the Sarcoptes, the females burrow into the epidermis, forming channels or galleries, depositing their eggs as they go, the number averaging about 15 (10-30.) The Sarcopt then perishes in the depth of the gallery. The eggs hatch out in from 3-7 days and the hexapod larvæ come to the surface, but are still protected by the scales of the skin. Under favourable conditions the larvæ become nymphæ 3-4 days later, and after a similar period the adults are produced from the nymphæ, the full cycle under favourable conditions thus takes from 2-3 weeks. Unless a considerable number of parasites were simultaneously transferred from a diseased to a healthy animal, it would therefore take at least three weeks before symptoms of mange would develop, while if the parasites were very few it would probably take another 3 or 4 weeks for the second generation of acari to be produced before any symptoms would be shown.

The Psoroptes live on the surface of the skin, under the scales of the epidermis, but do not burrow. In other respects their life history corresponds very closely with that of the sarcoptes, but as the female deposits many more eggs, 90-100, their multiplication is very much more rapid.

The Chorioptes or Symbiotes also live on the surface and do not burrow, and have a similar life history. They are limited to the legs of the host.

CHARACTERS OF THE PARASITES.

Sarcoptes Equi. The sarcopt is a very small acarus round or oval in shape. The head or rostrum, consisting of maxilla, mandibles and palpæ, is very thick and strong and adapted for burrowing. It possesses four pairs of short thick legs, the anterior two pairs being close to the head at the side of the body, and the posterior two pairs being under the body, the last pair being invisible from the dorsal aspect. In the female the first and second pair of legs carry bell-shaped suckers on short stalks, and in the male the first, second and fourth pairs carry suckers. The ovigerous female is about 400 microns long and the male about 250 microns.

Psoroptes Equi. This is the largest of the mange acari, the ovigerous female averaging about 700 microns long and the male 500 microns. It is oval in shape, and the rostrum is long and conical, and thus adapted for piercing the epidermis. The limbs are long and attached near to the margin of the body. The female carries suckers on the first, second and fourth pairs of legs, and the male carries suckers on the first, second and third pairs of legs. In the male there are also two triangular abdominal prolongations each carrying five hairs.

Chorioptes Equi The chorioptes are also oval parasites, the females being about 400 microns long and the males about, 300 microns. They possess a short conical rostrum, but fairly long legs. The female possesses suckers on the first, second and fourth pairs, and the male has suckers on all four pairs, on very short stalks. The male also possesses two rectangular abdominal prolongations each carrying four bristles.

The duration of life of the various parasites is subject to much variation. On the host the probable duration is from 4 to 6 weeks after attaining maturity. Off the host the parasites live a much shorter time—the sarcopts 7-14 days, the psoropts 3-4 weeks, and the choriopts rather longer, probably as much as 7-8 weeks. The eggs of the various parasites only retain their vitality for 2-4 weeks.

GENERAL SYMPTOMS.

These depend partly upon the mechanical irritation caused by the parasites puncturing the epidermis, or burrowing in the case of the sarcoptes, and also to some extent by irritating secretions which they produce; the latter is probably of far greater importance than generally recognised. The most noticeable features are intense irritation, which is usually worse at night time or if the animal becomes hot. There is loss of hair, redness of the skin visible in light coloured horses, and thickening of the epidermis with the formation of scales and crusts. If the affection is wide spread and chronic it will also lead to great emaciation and loss of flesh, due to interference with the functions of the skin, to lack of rest, and to the absorption of toxic products. In such cases it may terminate fatally.

Symptoms of Sarcoptic Mange. The first sign is that of intense pruritus. The animal is constantly rubbing and biting itself, and if rubbed or scratched by the hand usually shows satisfaction by stretching the head and by peculiar movements of the lips and nose. One may also feel small papules on the skin, and scaly patches may be seen from which the hair soon falls. The patches which are small at first, usually commence about the withers, neck and shoulders, extend by rubbing and by grooming, and may eventually affect the whole trunk. The limbs, the mane and tail are very rarely invaded by the sarcoptes. On account of the rubbing etc, the thickened skin may become fissured, with the formation of bleeding crusts and nauseous discharge. If the condition is widespread and treatment is neglected there is great malnutrition wasting and debility, and it may be fatal.

Symptoms of Psoroptic Mange are similar in many respects to those of sarcoptic mange. The lesions first appear about the mane and tail from which seats they spread along the back, then to the poll, the submaxillary space and the breast, and in bad cases may extend all over the trunk, but only in exceptional cases does it extend to the limbs. There is intense pruritus and the animal responds in a similar manner to rubbing with the hand. (It may be mentioned in passing, however, that this response to rubbing is by no means diagnostic of mange. It is only an evidence of pruritus, and horses affected with lice or harvest bugs, etc, will respond in a similar manner). In psoroptic mange there is often a little yellowish serous exudate on to the surface of the skin giving a moister and more matted condition than is usual in sarcoptic mange. It has been observed that in

some horses the psoroptes may be confined to the region of the ears without causing serious lesions. In such cases the animal often shakes his head and rubs it against the manger or other object and may attempt to scratch it with his hind foot.

The differences between the symptoms of sarcoptic and psoroptic mange in bad cases are comparatively slight and it is often quite impossible to differentiate them except by the discovery and identification of the individual parasite. Occasionally, of course, the two forms may co-exist. The importance of positive diagnosis lies in prognosis, since an earlier recovery may be expected in psoroptic than in sarcoptic mange.

Symptoms of Chorioptic or Symbiotic Mange. This form is chiefly met with in the lower part of the limbs, the pasterns and fetlocks, and sometimes extending above the hocks and knees. It most frequently occurs in coarse, hairy legged horses, and dirt and neglect materially predispose to infection. Attention is often first drawn to the condition by the animal stamping his feet and rubbing his leg with the opposite foot, and the irritation appears to be more pronounced at night when in a warm stable. On examination, the skin at the back of the pasterns and fetlocks is seen to be scaly and thickened, and the hair may be rubbed off. The thickening of the skin often leads to the formation of fissures which usually contain exudate and offensive discharge. The great pruritus and consequent rubbing of one leg against the other leads to the formation of ulcers, and sometimes to injuries of the coronets resembling treads. Chorioptic mange very rarely extends to any part other than the limbs, and the general condition of the horse is not much interfered with.

Diagnosis.

The clinical features of mange are often sufficient to afford a basis for a fairly positive opinion without the resort to microsopic examination, but in no case should an *absolutely* positive diagnosis be made without the discovery of the causal parasite. Somewhat similar itchy conditions of the skin may be set up by lice, hay-mites and harvest bugs, and in each of these cases a horse will indicate pleasure by nibbling movements of his lips, etc., on being rubbed with the hand. The discovery of these parasites, however, does not definitely negative the existence of mange, but if they are present and a careful examination fails to reveal the presence of mange parasites it may be safely presumed that the former are the cause of the skin disease.

Examination for the Parasite. For this purpose scrapings from the skin of the affected animal must be taken from some new lesion which has not been treated with parasiticide dressings. A deep scraping should be taken right through the epidermis in order to ensure the removal of parasites from the deeper situations as in the case of sarcoptes. The scraping may then be warmed and examined with a hand lens by which psoroptes or chorioptes may be seen. They may, however, be more easily seen by soaking the crusts in 10% caustic potash solution and then spreading it on a glass slide for examination under low power of the microscope. By this method the sarcoptes may also be seen.

Another simple method of examination consists in placing the scrapings in a small glass covered specimen box like a pill box and putting it in a warm place for half an hour or so. The warmth makes the parasites somewhat active and they often emerge from the debris on to the inner surface of the glass lid and can then be identified by hand lens or transferred to a slide for microscopic examination.

Pugh's mange tray is also a useful means of discovering the parasites. It consists of a black enamelled hot water dish. It is filled with hot water, and the scrapings are placed outside the tray. The warmth makes the parasites active and they can be seen making their way out of the debris, either by the naked eye or by means of a hand lens. The black enamelled surface makes them easily visible. They can then be transferred to a slide for minute microscopic examination. These methods are, however, rather tedious in cases where the parasites are not numerous and a considerable quantity of material has to be examined. It is then that the method suggested by Sheather is particularly serviceable. In fact if a large number of scrapings has to be examined this is the most expeditious and certain method of discovering the parasite if present.

Sheather's Method. This consists of placing the material in a test tube (or a portion of, it as it may be wise to reserve a little in case of accident). Hair and epithelial debris may be all put in together. A quantity of 10% caustic potash solution is then put in the test tube and it is boiled over a Bunsen burner or spirit lamp from 5-10 minutes. This dissolves most of the hair and epithelium, but the parasites and their eggs are left uninjured. The material is then centrifuged for a few turns, as the result of which process any parasites present are speedily driven to the bottom of the tube. The sediment thus obtained should then be transferred by means of a pipette to a slide and spread out and examined under a low power of the microscope. Practically the whole of the parasites from a large amount of material may thus be obtained on a single slide, so avoiding the necessity of examination of numerous slides. The method is particularly serviceable in those cases where the parasites are not very numerous.

Transmission. The chief source of infection in mange is an affected animal and it often happens that an animal already affected is introduced into a stud but not showing appreciable symptoms for a month or two after. During this period his grooming utensils have been used on other horses and parasites have been transferred, so that by the time the first one shows symptoms there may be others also showing symptoms of mange. Other means of transmission include harness, hands and clothes of attendants, rubbing posts, litter, railway horse boxes and ambulances, and it should be pointed ont that the blacksmith is anything but free from suspicion. Transmission is more rapid in studs where a number of horses are stabled closely together, and particularly in badly kept neglected horses and stables. Over-work, exposure and bad feeding afford better conditions for the development of the parasites when once they have been conveyed to the skin of an animal. The sarcoptic and psoroptic forms are the most easily transferred, while the symbiotic form of the disease is much less rapidly transferred.

Sarcoptic mange is transmissible from horse to horse and sometimes to the ox; it is also transmissible to man, and affects the arms and breasts of grooms and stablemen causing great pruritus. It only lasts a few days, and is rapidly remedied with a little sulphur ointment. Psoroptic mange is easily transmitted from horse to horse, but not to grooms. Symbiotic mange is also transmissible only from horse to horse and often then only in favourable or dirty conditions.

Follicular Mange.

As already stated follicular mange, which is due to the *Demodex folliculorum* is sometimes met with in the horse. This parasite differs considerably from the sarcoptidæ already described. It is a degenerate form of acarus, with an elongated fusiform body having in the adult stage four pairs of short stumpy legs which protrude like little knobs at the margins of the anterior portion of the body. The species has a life cycle similar to that of other acari. The ovigerous females deposit eggs from which hexapod larvæ are hatched. These give rise to nymphæ which are asexual and subsequently

develope into the sexually mature acari. They inhabit principally the hair follicles and the sebaceous glands of the skin, and sometimes set up lesions closely resembling acne. It is not a very contagious disease and its actual method of spread is obscure.

Symptoms. The lesions of follicular mange in the horse are principally met with about the head, chiefly in the region of the eye-lids and the nose. The hairs become erect and are often shed, and a scaly condition developes, pustules are comparatively rare. There is very little pruritus and it is rare for more than one case to be met with at a time.

Treatment.

The treatment of sarcoptic and psoroptic and follicular mange consists primarily in the application of parasiticides, a considerable number of which are effective. Thoroughness and frequency of application are the only secrets of success, provided, of course, that an efficient parasiticide is used; and herein lies the difficulty. If one wishes to be uniformly successful it would appear to be necessary to apply the remedies oneself, but in a large practice such a procedure is not practicable. Owing to the life cycle, the dressings should be applied every 4 days. For psoroptic and chorioptic mange, 4 such dressings should suffice. For sarcoptic the treatment must extend over 4 to 6 weeks. The various parasiticides employed include sulphur, potassium sulphurata, sulphurated lime, creosote, oil of tar, turpentine, petroleum, crude tobacco juice, salicylic acid, arsenic, mercury, chloride of zinc, and eusol. It is difficult to say which of these is the most effective, for as I have already stated, probably more depends upon the method and thoroughness of application than on the choice of the particular agent. In my hands the best results have been obtained with the old dressing consisting of sulphur 1-1½ lb, bicarbonate of potash ½ lb, oil of tar ʒviii and rape oil 1 gallon. It has been practically impossible recently to obtain good rape oil for this purpose, and other oils which have been suggested, such as fish oil and train oil, are rather apt to blister the skin and cause a shedding of the coat, which may be found very troublesome. The lime and sulphur dressing is a much cheaper preparation, and according to some authorities is equally effective, though in my hands it has not proved quite so useful. As recommended by the Board of Agriculture, it may be prepared by first mixing together 9lb lime, recently slaked, with 18lb sulphur, and making it into a paste almost like mortar. It is put into a cloth bag tied securely and suspended in a boiler containing from 10-12 gals. of water. It is then boiled for 2-3 hours, when it is yellowish brown in colour. If the water has become reduced to less than 10 gals. it must be made up to that amount. This concentrated solution may then be employed in the proportion of 1 pint to a gallon of water. In preparing the dressing the bag must not touch the sides of the boiler otherwise it would probably burn through and burst liberating the lime and sulphur and ruining the material and probably the boiler.

Another simple preparation consists in boiling together sulphur and washing soda in the proportion of 1lb of each to the gallon of water. Of the arsenical preparations Cooper's sheep dip may be used, or a crude Fowler's solution (1% white arsenic dissolved with the assistance of caustic potash). A mercurial soap is frequently used with excellent results: it consists of equal parts of strong blue mercurial ointment and soft soap melted together and thoroughly mixed. Of chloride of zinc a useful preparation may be made from Burnett's disinfecting fluid which contains 200 grs. to ʒi by mixing ʒxv-xx to a gallon of water, thus reducing it to either 4 or 5 per cent solution.

Method of Application. The animal should be isolated and a separate groom told off to look after the affected animals. Wherever possible the coat should be clipped and the clippings should be burnt. The skin should next be well soaked and washed with soda and water and hard soap, to soften the scales as far as possible and thus allow the dressing to penetrate. The dresing should next be applied all over the body in the case of sarcoptic and psoroptic mange, owing to the impossibility of determining the exact limit of the spread of the parasite. The dressing should be repeated in four days and washed off at the end of a week. The skin should be left undressed for a few days, then the dressing repeated as before. In the case of psoroptic mange, if the dressings have been thoroughly applied practically all the parasites will have been destroyed, including those which have hatched out in the interval; so that in from 2-3 weeks in psoroptic mange all the parasites should be destroyed, and all that remains is for the hair to grow again. In the case of sarcoptic mange it is usually necessary to continue the treatment for a further similar period owing to the different life history of the parasite. The Board of Agriculture recommend the application of the lime and sulphur dressing by means of a spray, and suggests that by this method it is unnecessary to clip the horse, since if the spray is directed in the opposite way to the hair it will be driven close into the skin, and the thicker coat assists in the retention of more fluid and therefore is more effective in destroying the parasites. In my experience the application by this method requires assisting by rubbing of the lotion into the skin since most of the liquid runs off the coat as applied. A good plan and probably the best, is to give two dressings of the oil, sulphur, and tar, and use the spray for subsequent dressings twice each week.

During the course of treatment the exhaustion and emaciation must be counteracted by a generous diet and the administration of a course of tonics, including arsenic; but in bad cases in spite of all vigorous attention horses will become cachectic, weak and may die.

In France the method of treatment by fumigation with sulphurous acid gas has been recommended and good results claimed for it. After clipping and washing, the horse is placed in a loose box with his head protruding through a tarpaulin sheet; otherwise the box is as nearly air-tight as possible. A quantity of concentrated sulphur dioxide is then turned on into the box and the horse is kept exposed to the gas for two hours. The head is subsequently dressed with a 10% solution of cresyl in oil. The cure is said to be effected fairly rapidly by this method.

Symbiotic Mange. Owing to the more limited distribution of this form the treatment is simpler than that of the other forms of mange, but the same dressings will be found equally effective. Wherever possible the hair should be removed from the legs first, and the application must be repeated several times with intervals of a few days.

A very important part of the treatment for mange consists in the attention to the stables, clothing, harness, grooming utensils, and any place on which an animal may have rubbed, including the shafts of the various vehicles. These should all be very thoroughly disinfected. After which the stalls and boxes well swept out and the sweepings burnt. For disinfection of the premises the Board of Agriculture recommend a thorough washing with a 4% minimum solution of carbolic acid containing not less than 95% of actual carbolic acid. It should be pointed out that lime wash is of itself not a disinfectant, and that to be effective it should contain not less than 4% of carbolic acid. The clothing, harness and utensils should all be exposed to a similar potent parasiticide in a large tank Any half-hearted attempt at disinfecting these articles is fore-doomed to failure.

Relapses after apparent recovery from mange not infrequently occur. A few parasites may survive the

treatment, but as they take a long time to become sufficiently numerous to cause fresh symptoms the relapse may not be apparent for several months. It is therefore doubtful whether an apparently recovered animal should be reintroduced into a healthy stud in less than three months. It may not, however, be practicable in many cases to carry out this principle.

It is well to point out that although the measures recommended for the treatment of mange appear to be comparatively simple, those who have had much experience of the disease know full well that they are by no means as simple as they appear, and that with all care results are frequently very disappointing There appears to be no royal road to success; thoroughness, patience and perseverance, together with a judicious use of parasiticides, will, in the majority of cases, be rewarded by success.

In answering questions that followed the reading of the paper, Prof. Wooldridge said he knew of no cases in which horses had caught a chill after being dressed all over.

The CHAIRMAN said he quite agreed that the old tar, oil, and sulphur dressing was most effective.

Prof. WOOLDRIDGE answering other questions said he had sometimes found lice and the mange parasite on the same horse. Generally the mane and the tail ought to be clipped in the case of parasitic mange. It was not practicable to take all the hair off a horse's tail as a rule but if that was the only way by which good results could be obtained by all means let it be done, because it would expedite the cure. It was more difficult to treat in the mane than in the tail, although there was likely to be a good deal of trouble at the base of the tail. He much preferred rape oil to train oil.

Mr. WALLIS: I have used a good deal of train oil and never found it do any harm.

Prof. WOOLDRIDGE: I have used it and got blisters.

Mr. WALLIS: The pre-war train oil never did that.

The HON. SEC.: But the war train oil does.

Prof. WOOLDRIDGE: Even the rape oil is not so good as it used to be.

Mr. WALLIS: What about linseed?

Prof. WOOLDRIDGE: It is a drying oil and blisters the skin. An ideal oil would be olive oil, but it is far too expensive.

Mr. WALLIS: Will train oil and rape oil mixed do?

Prof. WOOLDRIDGE advocated the use of eusol as the finest and cheapest solution. It was perfectly safe and non-poisonous. It could be used on the frailest dog and cat, on any sort of wound, and to swab out the peritoneal cavity. It could be used in eye and in ear cases. It would sweeten the most stinking wound in a few moments. It was made of 1oz. chlorinated lime, 1oz. boracic acid, and water to one Winchester quart. It must be filtered after three hours when it would become a perfectly clear water-like solution. It would keep potent for several months if properly corked up. At the College he used more of that than of all other disinfectants put together. They must not, however put their instruments into it. It turned blood green.

Mr. WALLIS mentioned that some weeks ago he had a fire in his office and discovered that drugs and instruments in his house were not covered by his fire policy. He mentioned this for the information of members. As an old insurer the company paid him, but they were not bound to do so.

After reading the paper, Prof. Wooldidge exhibited under the microscope the various types of mange parasites, and also specimens of the harvest bug, horse lice, hay mites and meal mites, fowl acari, and stained sections of hair affected with ringworm.

He also exhibited a spraying pump of the kind recommended by the Board of Agriculture.

A hearty vote of thanks was unanimously passed by the members present to Prof. Wooldridge for coming down and giving them such a splendid paper, which the Professor briefly replied to.

HY. P. STANDLEY, Hon. Sec.

NORTH OF IRELAND VETERINARY MEDICAL ASSOCIATION.

RESOLUTION.

Passed unanimously at a General Meeting of the members of the North of Ireland Veterinary Medical Association, held at Belfast, this 28th day of March, 1919:—

"That this meeting place on record its appreciation of the action of the Government in introducing the Ministry of Health Bill, and its application to Ireland. Further, having regard to the invaluable assistance heretofore rendered by the members of the veterinary profession to the cause of public health, and to the important part which they must in the future undertake in the matter, would point out the necessity of having the words 'And a member of the Royal College of Veterinary Surgeons' added to clause (*d*) of subsection 2; and at least one member of the veterinary profession on the Irish Public Health Consultative Council; and this meeting requests the Government to provide in said Bill for such representation.

That copies of this resolution be forwarded to the Prime Minister, Dr Addison, the Chief Secretary for Ireland, the Attorney General for Ireland, and the Ulster Members of Parliament."

Belfast, 31st March, 1919.

GLASGOW VETERINARY COLLEGE.

At a meeting of the Board of Governors of the Glasgow Veterinary College held in Glasgow, Sir Hugh Shaw Stewart, Bart., C.B., presiding, a report was submitted by the representatives who had attended the recent conferences held at the office of the Highland and Agricultural Society in Edinburgh regarding the proposed national scheme for research into diseases of animals. The report stated that there were present representatives from the Highland Society, the Scottish Chamber of Agriculture, the National Farmers' Union, and the two Scottish Veterinary Colleges, and that subsequently these representatives had conferred on the subject with the Board of Agriculture at the office of the Board, who were in full sympathy with the scheme.

It was decided to hold an opening lecture at the College at the commencement of the new session in October next, and it was left to Professor Glaister of Glasgow University, and Professor Gaiger, of the College, to make the necessary arrangements. No opening lecture has been held since the commencement of the war.

VETERINARY POLITICS.

Sir,—This week's *Record* is very depressing reading Nearly all its space is taken up with the reports of the Eastern Counties and Central Societies, and what did their proceedings amount to? The Eastern Counties' men were bad enough. They were largely occupied in discussing the eternally recurrent question of insurance companies' fees; but, as usual in veterinary debates upon this subject, there was little evidence that anyone realised certain obvious truths which will *always* prevent insurance companies from offering terms really satisfactory to the profession. The members of the Central Society were still worse. They were discussing.

"the situation of veterinary politics," and how much clearer did they make it? Many "grievances" were enlarged upon, but how many suggestions to remedy them were put forward? There was plenty of talk of what ought to be done, and too little thought of what could be done. I have never read a series of more strikingly futile speeches, and none were much more so than those of the two candidates for Council. The collective wisdom of the meeting may be judged from the fact that the retrograde scheme of "district representation" received universal approval. How that proposal, if it could be carried into effect, could be expected to remedy existing "grievances" is beyond comprehension; and certainly it would tend to put smaller and narrower men on the Council. The system of societies running candidates for the Council has given us many mediocrities and some nonentities; that of district representation would give us a still larger number of both. The only good thing to be said of district representation is that it is not so dangerous as another policy which was advocated at the meeting, and recently also in other quarters—the policy of a veterinary strike. It is time for us to ponder where *that* advice is likely to lead us.

On March 22nd you published a letter signed "Fra Diavolo," which was a most curious mixture of very bad and very good advice. The bad, of course, was that we should return to advertising, and lose most of our professional status by adopting trade methods. The best part of the good is the single sentence "If members of the profession had the instinct for combination so highly developed in miners, *still they could be done without.*" The italics are mine, and no wiser words than those could be spoken to the profession just now.

For we *could* be done without. We are a useful body whose utility is not yet fully recognised; and, even if it were, we are not and never shall be indispensable. Insurance companies, upon whom we so urgently press our claims, could do without us. Some, including, I think, at least one of the largest, do so now; *all* will if we insist upon terms that would make their contracts unprofitable. The public could do without us; we know that many owners habitually do so, and more will if we persist in demanding more than they think we are worth. Let us remember that veterinary schools and trained veterinary surgeons have only existed a few generations, that for by far the greater part of the world's history all veterinary work was done by empirics, and that throughout that period the work itself was more important economically than today—and let us be warned in time.—Yours faithfully,

"DAGONET."

COUNTY COUNCIL FEES AND MILEAGE.

To the Editor of "The Veterinary Record."

Sir,—May I appeal through the medium of your Journal to secretaries or other members of Veterinary Medical Associations as to what the County Council fees and mileage are in the counties they embrace, as there appears to be a great diversity of charges; we in the west do not think we are being paid sufficiently and would like to know what other counties are receiving. I do not see why there should not be a universal fee throughout the country, and if our "Veterinary Parliament" would take this matter up and the question of fees generally, I am inclined to think the subscriptions to the R.C.V.S. would increase very considerably. A post card reply will oblige. Thanking you in anticipation.—Yours faithfully,

WM. ROACH.
President Western Counties V.M.A.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1919:—

	Mar. 26.
H. Andrew, London, S.W. 1.	£1 1 0
T. J. Brain, Cheltenham.	1 1 0
J. J. Crowhurst, Stratford-on-Avon	1 1 0
F. L. Gooch, Stamford Baron.	1 1 0
J. Hammond, Bale.	1 1 0
F. Lindsay, Capt. R.A.V.C.	1 1 0
J. E. Mills, Cærsws. 1918, 1919	2 2 0
R. B. Nelder, Exeter.	1 1 0
W. B Nelder, Capt. R.A.V.C.	1 1 0
C. A. Powell, Woburn.	1 1 0
" " 1918 (omittted from last year's list)	1 1 0
Previously acknowledged	£677 18 0
	£690 10 0

	April 2.
W. Anderson, Keith, Banff.	£1 1 0
A. H. Berry, Board of Agriculture	1 1 0
W. G. Evans, Capt. R.A.V.C.	1 1 0
J. W. McIntosh, London.	1 1 0
J. F. Rees, Carmarthen.	1 1 0
W. Roots, London, S.E. 1.	1 1 0
M. Tailby. Birmingham.	1 1 1
Previously acknowledged	£690 10 0
	£697 17 0

ANGLO-FRANCO-BELGIAN VETERINARY RELIEF FUND.

10 Red Lion Square, W.C. 1.

The following Donations are gratefully acknowledged:—

N. Almond, Kingstone	£1 1 0
H. Andrew, Borough	1 1 0
A. Baird, Major	1 1 0
R. Barron, Blandford	1 1 0
E. W. Bovett. Bridgwater	2 2 0
J. Brown, Invergordon	1 1 0
M. J. Cleary, Rathdrum	5 0 0
S. H. Gaiger, Glasgow	2 2 0
F. L. Gooch, Stamford	1 1 0
G. Gordon, Capt.	2 2 0
J. Hammond, Bale	1 1 0
W. James, Llanybyther	10 0
A. Lawson, Manchester	2 2 0
R. N. Lewis, Major	1 1 0
W. L. Little, Capt	1 1 0
E. Peacey, Board of Agriculture	2 2 0
J. Peddie, Major, Auchterhouse	1 1 0
T. S. Price, Brixton	10 10 0
J. R. O. Reali, Bristol	10 0
T. F. Spencer, Kettering	2 2 0
H. Thomson, C.B., Maj. Gen.	2 2 0
F. J. Thornton. Dorchester	1 1 0
P. Vincent, Romford	1 1 0
E. A. West, London	1 1 0
J. B. White, Hatfield Broad Oak	10 6
G. Whitehead, Batley	1 1 0
E. C. Winter, Capt.	1 1 0
W. Woods, Wigan	5 0 0
	£52 9 6
Previously acknowledged	60 10 0
	£112 19 6

	April 2.		
A. S. Adams, Dursley	£2	2	0
W. Anderson, Keith, Banff	1	1	0
J. H. Bennett, Romford	1	1	0
J. A. Edwards, Capt. R.A.V.C.	1	1	0
W. Logan, Major, Inverness	2	2	0
J. F. Rees, Carmarthen	1	1	0
W. Robertson, Kirkintilloch	1	1	0
R. A. Thrale, Croydon	1	1	0
Previously acknowledged	£112	19	6
	£123	9	6

Erratum.—In the list appearing on March 22nd, the subscription entered from "A. L. Farrant, Hove," should have been entered "A. L. Farrant, Major, C.M.G. Corps."

ARMY VETERINARY SERVICE

Buckingham Palace, Mar. 20.

His Majesty held an Investiture in the Ball Room of the Palace at 11 o'clock.

The following were severally introduced into the presence of The King, when His Majesty invested them with the Insignia of the respective Divisions of the Orders into which they have been admitted :—

THE MOST DISTINGUISHED ORDER OF ST. MICHAEL AND ST. GEORGE.

* * * *

Col. WILLIAM ANTHONY. Lieut.-Col. ALFRED HEAD.

OBITUARY.

JOSEPH WOODGER, M.R.C.V.S.,
Graduated Lond : May, 1860.

Mr. Woodger died on 26th March, at 60 Sutton Court Road, Chiswick, aged 79.

DELANEY, GEORGE JOSEPH, M.R.C.V.S., Ballyhaunis, Co. Mayo.
Graduated Dub : Dec., 1914.
Died November, 1918.

The late Mr. K. P. Rankin.

Mr. Kenneth Rankin, inspector Board of Agriculture and Fisheries, was the fourth son of late Rev. Robert Rankin, B.D., of Lamington. Mr. Rankin was held in very high esteem. He was a faithful and trusted officer of the Board of Agriculture, thoroughly conscientious, and having a wide veterinary knowledge, which he applied with caution and firmness. Prior to his death he was investigating the serious outbreak of rabies in the South of England.—*N.B.A.*

CASE—On March 24th, at Cobham Lodge, Munster Road, Fulham, Queenie, the darling only child of Mr. and Mrs. A. Case, aged 9 years. After 5 days illness.

Personal.

MOORE—Lily Mary Patricia, wife of Captain Roger Moore, R.A.V.C., of a son, at Harrington Square, 26th March.

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

Period.	Rabies. Cases Confrmd. Dogs	Rabies. Cases Confrmd. Other Anmls	Anthrax Out-breaks (a)	Anthrax Animals.	Foot-and-Mouth Disease. Out-breaks (a)	Foot-and-Mouth Disease. Animals.	Glanders.† Out-breaks (b)	Glanders.† Animals.	Parasitic Mange. Out-breaks (b)	Parasitic Mange. Animals.	Sheep Scab. (b)	Swine Fever. Out-breaks (a)	Swine Fever. Slaughtered. *
GT. BRITAIN. Week ended March 29	3		3	4			2	15	124	264	11	18	6
Corresponding week in 1918			3	3			1	1	106	185	7	15	6
Corresponding week in 1917			13	13			1	1	64	131	12	45	16
Corresponding week in 1916			14	18			1	2	48	115	1	105	316
Total for 13 weeks, 1919	27	3	51	70	19	106	3	16	2118	4313	193	275	95
Corresponding period in 1918			86	100			9	30	1859	3592	201	195	76
Corresponding period in 1917			180	211			8	13	1021	2159	322	552	196
Corresponding period in 1916			168	201	1	24	19	38	1001	2474	149	1078	3376

(a) Confirmed. (b) Reported by Local Authorities
Board of Agriculture and Fisheries, April 1, 1919

† Counties affected, animals attacked :—London 2
Excluding outbreaks in army horses.

IRELAND. Week ended March 29	...	...	...	...			Outbreaks 3	7	...	...
Corresponding Week in 1918 ...			...	...	...	...	1	2	1	2
Corresponding Week in 1917 ...	...	...	...	...	...	...	2	12	3	23
Corresponding Week in 1916 ...	...	...	...	...	...	...	...	7	6	30
Total for 13 weeks, 1919 ...	...	...	...	...	1	1	44	114	14	47
Corresponding period in 1918 ...	1	1	...	...	...	...	45	135	6	26
Corresponding period in 1917 ...	2	2	...	...	1	1	15	166	58	867
Corresponding period in 1916 ...	1	5	...	...	...	...	22	172	59	294

Department of Agriculture and Technical Instruction for Ireland (Veterinary Branch), Dublin, March 31, 1919

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection